(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau

(43) International Publication Date
10 October 2002 (10.10.2002)

PCT

(10) International Publication Number
WO 02/078521 A3

(51) International Patent Classification[7]: A61B 8/14, 17/36

(21) International Application Number: PCT/US02/09548

(22) International Filing Date: 28 March 2002 (28.03.2002)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
60/279,477 28 March 2001 (28.03.2001) US

(71) Applicant *(for all designated States except US)*: VASCULAR CONTROL SYSTEMS, INC. [US/US]; Suite E, 32236 Paseo Adelanto, San Juan Capistrano, CA 92675 (US).

(72) Inventors; and

(75) Inventors/Applicants *(for US only)*: BURBANK, Fred [US/US]; 12 Old Ranch Road, Laguna Niguel, CA 92677 (US). ALTIERI, Grieg, E. [US/US]; 1102 Temple Hills Drive, Laguna Beach, CA 92651 (US). JONES, Michael, L. [US/US]; 6332 Camino Marinero, San Clemente, CA 92673 (US).

(74) Agent: LYNCH, Edward, J.; Coudert Brothers LLP, 600 Beach Street, 3rd Floor, San Francisco, CA 94109 (US).

(81) Designated States *(national)*: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, OM, PH, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZM, ZW.

(84) Designated States *(regional)*: ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

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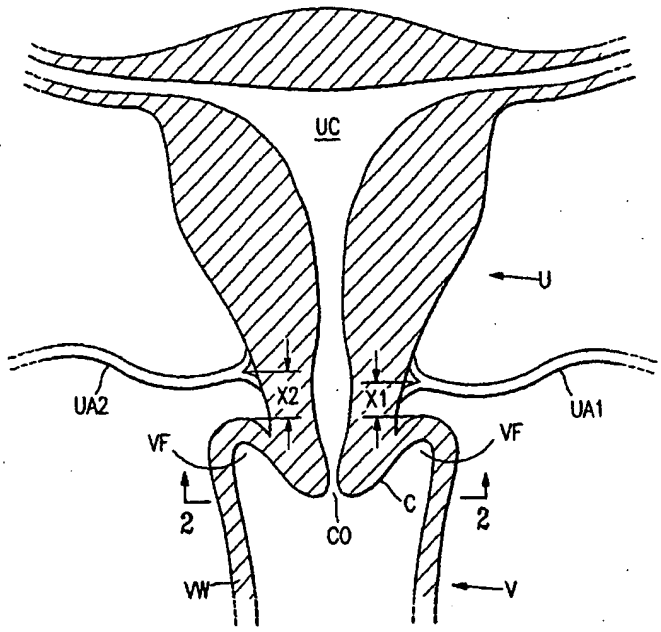
(54) Title: DEVICE FOR UTERINE COMPRESSION



(57) Abstract: A compressor (100) compressing one or both of the uterine arteries of a patient which is at least n part shaped to complement the shape of the exterior of the cervix, which allows the system to be self-positioning. One or more Doppler chips (214i, 216i) can be mounted or incorporated into the compressor (100) which permit the practitioner to better identify the uterine artery and monitor blood flow therein. The compressor (100) includes a pair of pivotally joined elements which can be moved toward and away from the cervix to compress a uterine artery.

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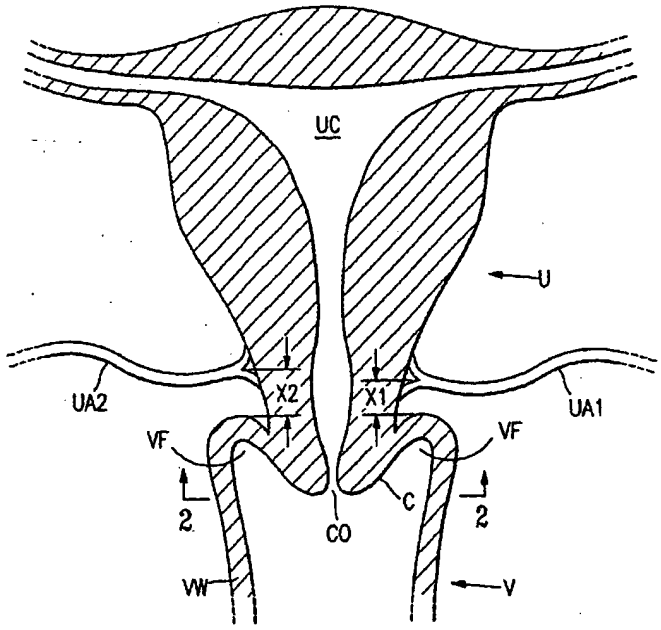

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WO 02/078521 A3

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US02/09548

A. CLASSIFICATION OF SUBJECT MATTER
IPC(7) : A61B 8/14, 17/36
US CL : 600/461; 606/205
According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
U.S. : 600/407-595; 606/41, 45, 46, 151, 158, 205; 128/898

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched
NPL

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)
EAST 1.3: compression, occlusion, artery, uterine, doppler

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	US 6,066,139 A (Ryan et al.) 23 May 2000 (23.05.2000), entire document.	1-69
Y	US 5,979,453 A (Savage et al.) 09 November 1999 (09.11.1999), entire document.	1-69

☐ Further documents are listed in the continuation of Box C. ☐ See patent family annex.

* Special categories of cited documents:

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier application or patent published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

"&" document member of the same patent family

Date of the actual completion of the international search
24 February 2003 (24.02.2003)

Date of mailing of the international search report
15APR 2003

Name and mailing address of the ISA/US
Commissioner of Patents and Trademarks
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Authorized officer
Ali Imam
Telephone No. 703-308-1148

Form PCT/ISA/210 (second sheet) (July 1998)


Images Description and Claims (92 Kb)

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(11) WO 02/*078521* **(13)** A2

(21) PCT/US02/09548

(22) 28 March 2002 (28.03.2002)

(25) English **(26)** English

(30) 60/279,477 28 March 2001 (28.03.2001) US

(43) 10 October 2002 (10.10.2002)

(51)[7] A61B

(54) MULTI-AXIAL UTERINE ARTERY IDENTIFICATION, CHARACTERIZATION, AND OCCLUSION PIVOTING DEVICES AND METHODS

(71) VASCULAR CONTROL SYSTEMS, INC. [US/US]; Suite E, 32236 Paseo Adelanto, San Juan Capistrano, CA 92675 (US).

(72) BURBANK, Fred [US/US]; 12 Old Ranch Road, Laguna Niguel, CA 92677
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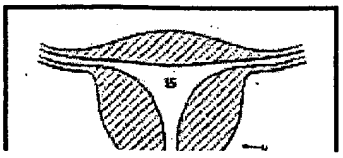
For information on time limits for entry into the national phase please click here

Published

-- *without international search report and to be republished upon receipt of that report*

(57) A system is provided for compressing one or both of the uterine arteries of a patient which is at least n part shaped to complement the shape of the exterior of



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Français
2 of 2

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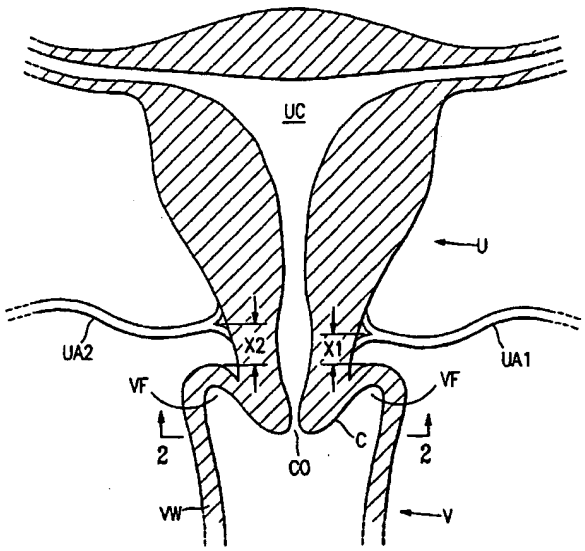

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WO 02/078521 A2

MULTI-AXIAL UTERINE ARTERY IDENTIFICATION, CHARACTERIZATION, AND OCCLUSION PIVOTING DEVICES AND METHODS

[0001] This application is related and claims priority under 35 U.S.C. § 119 to U.S. provisional patent application serial number 60/279,477, filed March 28, 2001, the entire contents of which are incorporated by reference herein. This application is also related to an application filed on even date herewith entitled "Multi-axial uterine artery identification, characterization, and occlusion devices and methods", by Fred Burbank, Grieg E. Altieri, and Michael L. Jones, attorney docket number 0281-0001, the entire contents of which are incorporated by reference herein.

BACKGROUND OF THE INVENTION

Field of the Invention

[0002] The present invention relates to devices, systems, and processes useful for compressing a uterine artery, and more particularly to devices and systems capable of easily locating, compressing, and/or monitoring or characterizing the blood flow through a uterine artery.

Brief Description of the Related Art

[0003] It has been proposed that occlusion of the uterine arteries of a human female patient can kill myomata, i.e., fibroids, because of the relative frailty of the fibroids to anoxia or hypoxia, and the relatively high resistance of uterine tissues to anoxia or hypoxia. See Burbank, Fred, M.D., et al, Uterine Artery Occlusion by Embolization or Surgery for the Treatment of Fibroids: A Unifying Hypothesis-Transient Uterine Ischemia, The Journal of the American Association of Gynecologic Laparoscopists, November 2000, Vol. 7, No. 4 Supplement, pp. S3-S49. U.S. Patent No. 6,254,601, to Fred Burbank et al, entitled "Methods for Occlusion of the Uterine Arteries", describes numerous devices and methods useful for occluding a uterine

WHAT IS CLAIMED IS:

1. A device useful for compressing a uterine artery of a patient comprising:

a handle having a proximal end and a distal end; and

a compressing portion mounted to the handle distal end, the compressing portion having a distal end face and a side surface.

2. A device in accordance with Claim 1, wherein the compressing portion is a first compressing portion, and further comprising a second compressing portion spaced apart from the first compressing portion; and

wherein the handle is connected to at least one of the two compressing portions.

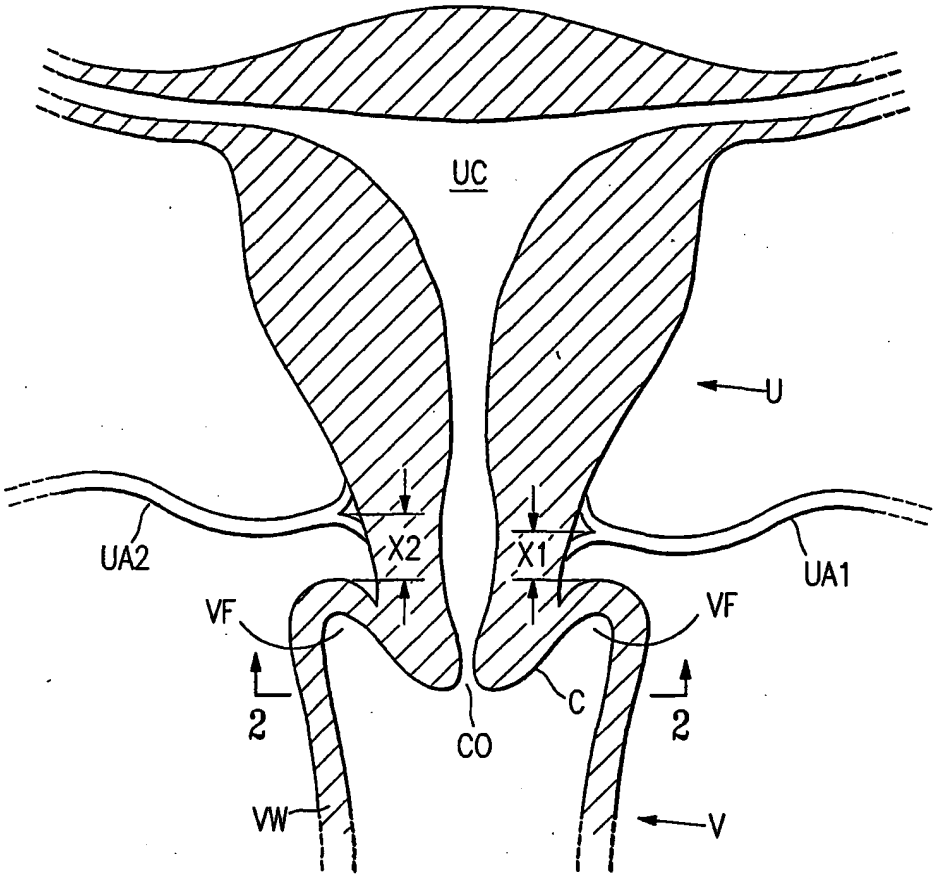
3. A device in accordance with Claim 2, further comprising:

at least one Doppler crystal mounted in the compressing portion, the at least one Doppler crystal having a direction of view away from the compressing portion distal end face.

4. A device in accordance with Claim 2, wherein the at least one Doppler crystal is releasably mounted in the distal compressing portion.

5. A device in accordance with Claim 2, wherein the at least one Doppler crystal is integrally formed in the distal compressing portion.

6. A device in accordance with Claim 2, wherein the at least one Doppler crystal comprises a plurality of Doppler crystals mounted in the compressing portion.


UC
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X1
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VF
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FIG. 1

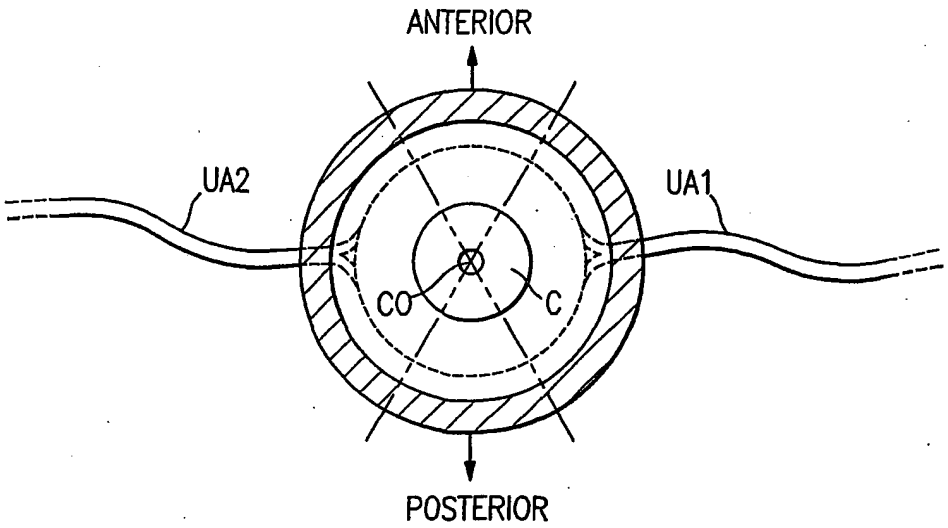
ANTERIOR
UA2
UA1
CO
C
POSTERIOR

FIG. 2